

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 F04B43/12

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 F04B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|--|-----------------------|
| A | US 4 552 516 A (STANLEY DERYL B) 12 November 1985 (1985-11-12) claim 1 | 1 |
| A | DE 201 09 803 U (FRESENIUS HEMOCARE GMBH) 24 October 2002 (2002-10-24) column 1, line 65 - column 2, line 27 | 1 |
| A | US 4 604 038 A (BELEW ROBERT R) 5 August 1986 (1986-08-05) column 2, line 40 - column 3, line 8 | 1 |
| A | US 3 011 684 A (CORNEIL ERNEST R) 5 December 1961 (1961-12-05) column 1, line 49 - line 70 | 1 |
| -/-- | | |

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- * & * document member of the same patent family

Date of the actual completion of the international search

22 September 2004

Date of mailing of the international search report

30/09/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Fistas, N

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

| Category ° | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|--|-----------------------|
| A | DE 198 14 943 A (MOLDENHAUER THOMAS) 7 October 1999 (1999-10-07) cited in the application abstract ----- | 1 |

| Patent document cited in search report | | Publication date | Patent family member(s) | | Publication date |
|---|---|---------------------|----------------------------|-------------|---------------------|
| US 4552516 | A | 12-11-1985 | CA | 1233362 A1 | 01-03-1988 |
| DE 20109803 | U | 24-10-2002 | DE | 20109803 U1 | 24-10-2002 |
| US 4604038 | A | 05-08-1986 | NONE | | |
| US 3011684 | A | 05-12-1961 | NONE | | |
| DE 19814943 | A | 07-10-1999 | DE | 19814943 A1 | 07-10-1999 |